SHORTER NOTES

Ctenitis rubiginosa, from Hawaii, belongs in Nothoperanema.-Close inspection of the fern known as Ctenitis rubiginosa in Hawaii reveals that it is more appropriately placed in the genus Nothoperanema. Nothoperanema was first described as a genus by Ching (Acta Phytotax. Sin. 11:17-29, 1966), who recognized five species. Tagawa (Acta Phytotax. Geobot. 7:198-200, 1938) had previously used the name as a subgenus of Dryopteris, comprising three species. Nothoperanema is closely related to Dryopteris but differs by the presence of rigid, articulate, hairlike scales (conical intestiniform or vermiculiform scales, several cells wide at the base) on the adaxial surface of the lamina, especially along the midribs. In these characteristics, it agrees more with Peranema and allies (Price, Gardens' Bull. 30:239-250, 1977). The type of Nothoperanema, N. squamisetum (Hook.) Ching, ranges from Africa and Madagascar to China and Taiwan and appears to be the closest ally of N. rubiginosum. The Hawaiian species differs from the type in the lighter colored, denser, and more flexuous scales on rachises and costae and generally larger, somewhat more dissected blades. Other species of Nothoperanema, particularly N. hendersonii (Bedd.) Ching, occur from India to eastern Asia, including the Philippines (Price, Gardens' Bull. 30:239-250, 1977) and Borneo (Parris, Beaman, and Beaman, The plants of Mount Kinabalu. I. Ferns and fern allies. Royal Botanic Gardens, Kew, 1992). "Nothoperanema maximowicziana (Miq.) ined.", illustrated by Tryon and Lugardon (Spores of the Pteridophyta. Springer-Verlag, New York, 1991), is more properly placed in Dryopsis, another relative of Nothoperanema (Holttum and Edwards, Kew Bull. 41:171-204, 1986). Nothoperanema rubiginosum most recently has been included in Ctenitis, but is clearly aberrant there because of its deeply grooved costae and rachises adaxially, the grooves continuous from one midrib to the next. The hairlike scales (termed hair-scales by Holttum and Edwards, Kew Bull. 41:171-204, 1986) on the adaxial surface in Nothoperanema are often at least 2 or 3 cells wide at the base and are composed of subquadratic cells. Ctenitis has flattened or convex midribs covered with numerous, reddish, uniseriate, articulate hairs adaxially. The Hawaiian species occurs on all of the main islands, above about 1000 m, in rain forests.

Nothoperanema rubiginosum (Brack.) A. R. Smith. & D. Palmer, comb. nov.— Basionym: Lastrea rubiginosa Brack., U.S. Expl. exped., Filic. 16:201. 1854.—Dryopteris rubiginosa (Brack.) Kuntze, Revis. gen. pl. 2:813. 1891.—Ctenitis rubiginosa (Brack.) Copel., Gen. filic. 125. 1947.

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